

REMARKS

The Examiner has objected to the drawings under 37 C.F.R. § 1.83(a) for allegedly not showing every feature of the invention specified in the claims. In particular it is asserted that the two magnetic assemblies must be shown or the features cancelled from the claims. It will be appreciated that the first magnetic assembly refers to the armature 12 and the second magnetic assembly refers to the stator 11. Identifying numerals have been added to claims 1, 2 and 3 to set forth the proper identification. Therefore, it is respectfully requested that this objection to the drawings under § 1.83 be withdrawn.

An objection to the drawings has also been made because they allegedly fail to show the coils connected in sets of three as described in the specification. Applicant respectfully submits an amendment to the specification and a red-ink correction for Fig. 1 which shows an exemplary coil connected in a set of three as identified by the numeral 11a. It is respectfully submitted that this amendment to the drawings does not add new subject matter. Accordingly, withdrawal of this objection under 37 C.F.R. § 1.83(a) is requested.

The Examiner has also objected to the drawings under 37 C.F.R. § 1.83 because they allegedly fail to show various elements such as the gap (15a), the hard, slotted dielectric tube (31), and the sealing surface (31a). These elements are now identified in the red-ink drawings and as such it is believed appropriate for this objection to be withdrawn.

Claims 1-2 have been rejected under 35 U.S.C. § 112, first paragraph, as based on a disclosure which is allegedly not enabling. It is asserted that the gap left by the coils; a hard, slotted dielectric tube; and a bearing rings/surfaces are critical or essential to the practice of the invention, but not included in the claims, and thus the claims are supposedly not enabled by the disclosure.

It is respectfully submitted that with the enclosed red-ink drawing that the gap 15a, the hard, slotted dielectric tube 31 and the bearing rings/surfaces 31a are described in the specification and shown in the drawings and therefore the disclosure is enabling. Accordingly, it is respectfully requested that the rejection of claims 1-2 under § 112, first paragraph be withdrawn.

The Examiner has rejected claims 1-3 and 5-7 as being unpatentable over the patent to Denne, U.S. Patent No. 5,440,183 in view of the patent to Mosciatti et al., U.S. Patent No. 4,245,917. It is alleged that Denne teaches a sealed cylindrical assembly having a first magnetic assembly; a second magnetic assembly wherein the polarity of one of the assemblies being changeable in response to an electric control signal in order to cause relative movement between the first and second assemblies along an axis of relative movement. It is acknowledged by the Examiner that Denne fails to teach that one of the assemblies is provided with a fin projecting transversely to the axis of the relative movement and that the other of the assemblies comprises a plurality of permanent magnetic sections each having pole pieces, being provided with a slot extending parallel to the axis of relative movement and arranged to receive the fin. Further, it is acknowledged that Denne does not disclose that the other assembly comprises a plurality of magnetic elements in order to create axially alternating magnetic fields.

In order to overcome these shortcomings it is alleged that Mosciatti teaches an assembly with a fin and an assembly with a slot for the purpose of mechanically coupling the armature to the driving mechanism. And further that it would have been obvious to one skilled in the art at the time the invention was made to use the assembly with a fin and a slot disclosed by Mosciatti on the electromagnetic actuator disclosed by Denne for the purpose of mechanically coupling the armature to the various driving mechanisms.

It is respectfully submitted that a *prima facie* case of obviousness has not been made in rejecting independent claim 1. In particular, it is respectfully submitted that the combination of the aforementioned references does not teach all of the limitations of the claimed invention. In particular, Mosciatti et al. does not actually disclose that the magnetic assembly with the slot 15 comprises a plurality of magnetic elements in order to create axially alternating magnetic fields. Reference is made to Fig. 8 of Mosciatti et al. which clearly shows that although there may be a plurality of magnetic elements they are all noted in the same direction for there is no series of alternating fields along the length of the actuator. Hence, the combination of Denne and Mosciatti would not have arrived at the claimed invention. It is submitted that the creation of the axially alternating fields allows

the propulsion forces present in the actuator to be controlled by the creation of the alternating magnetic fields, whereby a controlled relative movement of assemblies is produced. Accordingly, each and every feature of the claimed invention is not present in the combination proffered by the Examiner and it is respectfully submitted that independent claim 1 is allowable and that all claims depending therefrom are likewise deemed allowable.

The applicant respectfully requests entry of dependent claims 8-10 which set forth structural features that are nowhere taught or suggested in the art made of record. In particular, claim 8 sets forth that the plurality of coils are wound to create a gap (15a) in the coils to permit the fin of the first assembly to be received by the other assembly. Dependent claim 9 sets forth that the other assembly is lined with a hard, slotted dielectric tube. And finally, dependent claim 10 sets forth that the first assembly is provided with a bearing surface which is arranged to slide along the hard dielectric tube. Basis for these amendments can be found throughout the specification and in the drawings and their allowance is respectfully requested.

A supplemental Information Disclosure Statement is submitted with the filing of this response in view of the applicant becoming aware of a patent which may be considered relevant. Acceptance of this Information Disclosure Statement is respectfully requested.

Based upon the foregoing amendments and remarks submitted herewith, claims 1-10 are believed to be patentable and entry of a formal Notice of Allowance as to those claims is earnestly solicited.

A Request for a Three-Month Time Extension is attached along with a check in the amount of \$465.00 (small entity). In the event the fee required for the filing of these documents is not enclosed or is deemed insufficient, the Assistant Commissioner of Patents and Trademarks is hereby authorized to withdraw the required funds from Deposit Account No. 18-0987. If a withdrawal is required from Deposit Account No. 18-0987, the undersigned attorney respectfully requests that the Assistant Commissioner of Patents and Trademarks cite Attorney Docket Number THC.P0001 for billing purposes.

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Should the Examiner deem a telephone call to be beneficial in resolving any remaining matters or to place the claims in better form for allowance, the same would be greatly appreciated.

Respectfully submitted,



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Attachment - replacement drawing sheet